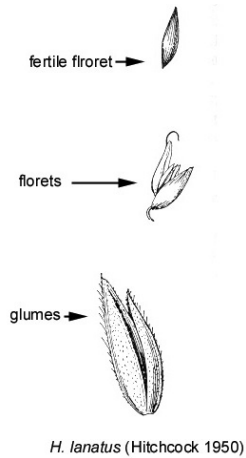




## Velvet Grass: Invasive Species Case Study

### What is Velvet Grass and why is it important?



Velvet grass (*Holcus Lanatus*) is a perennial bunchgrass native to Europe with velvety grey-green leaves. It can be a highly invasive species because it produces a large amount of seed and is a rapid colonizer of disturbed ground—estimates of seed production range from 850 to 240,000 seeds per plant. The grass dominates habitats by forming dense patches with impenetrable roots. It has already reached almost untreatable proportions in other parks in California such as Point Reyes National Seashore. The grass appears to prefer seasonally wet locations, though its seeds survive droughts and hot summers, and it has been observed growing in Yosemite in conditions ranging from standing water to extremely hot and dry upland habitat.



Velvet grass was introduced in North America in pasture seed mixes, and it has been quietly invading mid-elevation meadows (3600-6400 feet) in Yosemite for several years. Velvet grass has the potential to completely take over and replace most of the herbaceous plants in some identified meadows, wetland, and riparian areas. These are critical ecosystems which must be preserved for habitat protection, native species diversity, biomass, productivity and scenic vistas. In 2005 park staff realized the extent of this invasion and sought to know more about its distribution in the park. As of fall 2007, 285 acres of velvet grass infestation have been documented, with the highest concentrations in Yosemite Valley, Foresta, Wawona, and Pate Valley.

### What is Yosemite doing about Velvet Grass?

With a grant from the Yosemite Fund, the park conducted an initial survey of velvet grass infestation in the park in fall 2006. Population abundance and distribution, detailed habitat type and associated species were noted at each population surveyed. Geographic Information Systems (GIS) map data was collected where current populations of velvet grass exist and can now be used to help analyze vegetation trends. Over 2,500 acres were surveyed with 285 acres of velvet grass mapped.

Park managers then used the mapping project to begin treatment efforts of several high priority populations. Since little information exists about the success of velvet grass treatment in the western United States, monitoring studies were initiated to gauge the success of various treatment efforts. In 2006, the crew treated velvet grass in 4 locations: Pate Valley, Chilnualna Falls, the Big Oak Flat Road and Miguel Meadows. In 2007, populations were treated at Black Spring, Happy Isles Fen, El Capitan Meadow and Leidig Meadow in Yosemite Valley, as well as Big Oak Flat Road, in the Mariposa Grove and at Pate Valley. Hand-pulling and mowing (using weed-eaters) were the methods used.

Two types of monitoring plots were installed at various treatment sites. "Transect monitoring" measured velvet grass abundance as well as the presence of associated non-native species. This type of monitoring will show both the response of velvet grass to treatment and whether additional invasive species are colonizing the treated areas. The second type of monitoring compared hand-pulling to mowing in order to show the effect of treatment on velvet grass as well as the effects on other plants in the areas.

## What did the park find out and what are the next steps?

Hand- pulling often proved tedious, as it was difficult to locate and identify young velvet grass seedlings. Mowing was accomplished more quickly, but it not feasible in wilderness areas. Before the data can be analyzed, it is necessary to re- treat these populations and collect data from the plots for a minimum of two additional years.

The park will continue to treat and monitor velvet grass populations in high- priority locations. The results from the monitoring should assist Yosemite's managers as they choose the most appropriate method for future velvet grass treatment. In addition, the wilderness crew will continue to survey potential velvet grass habitat as they patrol wilderness areas.

## How can I get involved?

**Volunteer:** Learn basic ecological principles and plant identification skills while working with a Resources Management & Science Ranger to eradicate invasive plant species in Yosemite Valley. The HaPY (Habitat Protectors of Yosemite) program has been running for the past 2 years in order to help build public awareness and understanding about invasive species. Group programs are also available Monday through Friday for groups larger than 10. Stay tuned for HaPY volunteer dates starting next spring or contact the Vegetation & Restoration Volunteer Coordinator for more information at 209-379-1304.

**Park Plans:** For several years, the National Park Service at Yosemite has been working on a Parkwide Invasive Plant Management Plan. Public comments taken during the scoping period from January 1, 2005- February 15, 2005 have helped inform the planning process. A draft Environmental Assessment is anticipated to be available for public review in winter 2008.

**In Your Community:** Invasive species don't stop at the park border, and they can cause serious problems when they spread to wild areas. Preventing introduction is the most efficient way to protect against invasive species. Some tips include: Ask only for non- invasive species when you acquire plants; Plant only environmentally safe species in your garden; Seek information on which species are invasive in your area—information sources include botanical gardens, horticulturists, conservationists, and government agencies; Remove invasive species from your land and replace them with non- invasive species suited to your site and needs; Do not trade plants with other gardeners if you know they are species with invasive characteristics; Request that botanical gardens and nurseries promote, display, and sell only non- invasive species; Help educate your community and other gardeners in your area.

## Public Participation



THE YOSEMITE FUND  
Providing for Yosemite's Future

Public participation is essential for the success of this and all other park projects.

Here are some ways to stay involved in the park:

- **Attend a National Park Service public open house** to talk with project specialists and obtain more information on this topic. Visit the park's planning website (listed below) for upcoming dates.
- **Add your name to the park's planning list** and receive the *Planning Update* newsletter as well as other planning- related notices. You can also submit your email address to receive the park's periodic electronic newsletter.
- **Additionally, you can submit comments with your thoughts about this topic or any other project in the park by any of the following means:**

Mail: Superintendent  
P.O. Box 577  
Yosemite, CA 95389

Phone: 209/379-1365; Fax: 209/379-1294

E- mail: Yose\_Planning@nps.gov

- **Visit online:** [www.nps.gov/yose/parkmgmt/planning.htm](http://www.nps.gov/yose/parkmgmt/planning.htm) to find out about plans and projects or [www.nps.gov/yose/naturescience/index.htm](http://www.nps.gov/yose/naturescience/index.htm) to find out about science & nature